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IN THE UNITED STATES PATENT & TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

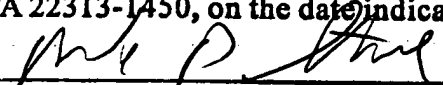
Applicant: Morgan Kanflod et al : Examiner: Victor L. MacArthur  
Mark: Coupling Sleeve For : Group Art Unit: 3679  
Connection Of A Threaded :  
Rock Bolt To An Impact :  
Rock Drilling Machine :

Serial No. 10/539, 148

Filed: June 16, 2005

Commissioner for Patents  
P.O. Box 1450  
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MARK P. STONE  
Reg. No. 27,954

12/18/08  
(Date of Deposit)

Mail Stop: Appeal Brief - Patents

TRANSMITTAL OF REPLY BRIEF

Enclosed for filing please find a Reply Brief (in triplicate), filed in response to the Examiner's  
answer dated November 6, 2008 issued in connection with the pending appeal of the above identified  
patent application.

Respectfully submitted,



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REPLY BRIEF

This Reply Brief is being filed in response to the Examiner's Answer dated November 6, 2008 issued in connection with the pending appeal of the above identified patent application.

Essentially, the Examiner's Answer dismisses Applicant's argument in the Appeal Brief filed on September 18, 2008 that functional language in appealed Independent Claim 1 must be considered in the patentability determination. The Examiner's Answer consistently asserts that because the Examiner considers the structure of the Sanderson and Ponto patents (the two references applied to reject Independent Claim 1 in the Final Action) to be identical to Applicant's claimed structure, the prior art is presumed to be inherently capable of performing the claimed function. Applicant disagrees with the position asserted in the Examiner's Answer for the reasons to be discussed as follows.

Applicant's claimed coupling sleeve includes a first part designated by reference numeral 3 having an internal thread designated by reference numeral 4 for connection to a rock bolt designated by reference numeral 1. The coupling sleeve also includes a second part designated by reference numeral 5 provided with an internal thread designated by reference numeral 6 for connection to a rock drilling machine designated by reference numeral 2. A locking device designated by reference numeral 7 cooperates with a region designated by reference numeral 8 on the rock drilling machine 2 for preventing separation of the coupling sleeve and the rock drilling machine. In this manner, the locking device is unloaded (unlocked) when percussion energy is transmitted from the rock drilling machine to the rock bolt through the coupling sleeve, and the locking device is loaded (locked) to prevent the drilling machine from disconnecting from the coupling sleeve when the rock drilling machine is rotated in a predetermined direction for disconnecting the coupling sleeve from the rock bolt.

As can be seen from Figure 2 of the drawing, and as will be readily understood by those skilled in the relevant art, the internal thread 4 on the first part 3 of the coupling sleeve, and the internal thread 6 on the second part 5 of the coupling sleeve, are oriented in the same direction. As a result of the corresponding direction of inclination of the threads 4 and 6, the drilling machine 2 and the rock bolt 1 are securely retained in the coupling sleeve when the rock drilling machine is rotated in a predetermined direction during a percussion/drilling operation. Accordingly, the locking device 7 is unnecessary, and Independent Claim 1 expressly recites that locking device is unloaded during a percussion operation. However, when the rock drilling machine is rotated in a second predetermined direction, opposite to the first predetermined direction of rotation, the rock bolt is separated from the coupling sleeve and retained within a rock. However, rotation of the rock drilling machine in the second predetermined direction will also loosen the rock drilling machine from the coupling sleeve as a result of the same angular direction of inclination of the internal thread 6. Therefore, as expressly recited in

Independent Claim 1, it is necessary for the locking device to engage the coupling sleeve to prevent the rock drilling machine from being disconnected from the coupling sleeve when the rock drilling machine is rotated in the second predetermined direction to disconnect the rock bolt from the coupling sleeve.

Contrary to the coupling sleeve disclosed and claimed by Applicant, the Sanderson patent uses, in combination a dowel 15, an anchor stud 3. As discussed on page 2, column 1, lines 55-61 of the Sanderson:

“A suitable dowel 15 prevents loosening of the rope socket member by reason of relative movement between the rope socket member 2 and the tool body 1. The anchor stud 3 has a righthand thread and on its lower end and a lefthand thread on its upper end for drawing the mating faces of the tool body and the rope socket member together.”

As a result of the specific orientation of the threading disclosed by the Sanderson patent, it is unnecessary to employ any locking device to retain one element during rotation for the purpose of disconnecting another element. Moreover, as a result of the specific structural arrangement disclosed by Sanderson, a person skilled in the relevant art would not employ the device disclosed by Sanderson for transmitting percussion energy between a rock drilling machine and a rock bolt through a coupling sleeve. As will be clearly understood by those skilled in the relevant art, in a percussion drilling operation there is a controlled rotational movement between each percussive stroke, in order to expose a new rock surface during each stroke, resulting in cuttings of predictable size. Accordingly, the locking device is disengaged from the coupling sleeve during percussion strokes as recited in Independent Claim 1, since the elements connected to the coupling sleeve are tightened during a percussion operation. However, the locking device engages the coupling sleeve to prevent disconnecting the rock drilling

machine from the coupling sleeve when the rock drilling machine is rotated in a direction to disconnect the rock bolt from the coupling sleeve, as recited in Independent Claim 1. Thus, the structural arrangement and functional relationship between the locking device and the coupling sleeve defined by Applicant's Independent Claim 1 is significantly different from that disclosed by the Sanderson patent.

The Ponto patent, which was also applied to reject Independent Claim 1 in the Final Action, states, in pertinent part:

"A coupling sleeve 11 fits over the enlargements 3, 4 and box 7, and is provided with longitudinally extending flat faces 12, 12 which fit against the aligned faces 8, 9, 10 thus preventing relative rotation and unscrewing of the sucker rods and box." (page 1, lines 45-50 of the Ponto Specification).

The Ponto patent also states: "...To prevent upward movement of the sleeve a locking pin 14 is provided. ..." (Page 1, lines 54-55 of the Ponto Specification).

Accordingly, it is the orientation of the coupling sleeve, and not any locking device, which prevents relative rotation and unscrewing of the sucker rods and the box of the Ponto device. The locking device, namely the locking pin 14, is provided only for the purpose of preventing upward movement of the sleeve. Contrary to the disclosure of the Ponto patent, the coupling sleeve defined by Independent Claim 1 expressly recites a structural and functional relationship between the locking device and the coupling sleeve to prevent unscrewing of one element connected to the coupling sleeve during rotation in a direction intended to disconnect by unscrewing the other element attached to the coupling sleeve. Moreover, the locking device for the coupling sleeve defined by Independent Claim 1 is

unloaded (unlocked) during a percussion operation, while the locking pin of the Ponto device is engaged during drilling operations performed by that device.

Applicant respectfully submits that neither the Sanderson or Ponto patents anticipate Independent Claim 1 when all features of the claim, including the structure and structural relationship defined between the locking device and the coupling sleeve, are considered in the patentability determination. When evaluated in this manner, it is clear that there is no strict identity between the coupling sleeve defined by Independent Claim 1, and the devices disclosed by either the Sanderson or Ponto patents.

As noted in the Appeal Brief, product claims may be drafted to include functional limitations to wholly or partially defined the claimed product, and to the extent that the functional limitations distinguish the product over the prior art, they are entitled to the same consideration given to traditional structural limitations. Thus, there is nothing intrinsically wrong in defining a product by what it does, rather than by what it is. See, for example, *In re Hallman*, 210 USPQ 609 (CCPA 1981). Applicant respectfully submits that the functional limitations defining the relationship between the claimed coupling sleeve and the locking device are entitled to full consideration, and when considered, clearly distinguish Independent Claim 1 over the Sanderson and Ponto patents.

Independent Claim 1 was also rejected as being obvious over a combination of the Sanderson and Ponto patents. However, since neither the Sanderson and Ponto patents teach or suggest all features of the device defined by Independent Claim 1, there can be no suggestion or motivation in the prior art, or within the common knowledge of a person of ordinary skill in the relevant art, to combine these two references in any manner rendering Independent Claim 1 obvious. Accordingly, as a result of

the diverse teachings of the two references, the only basis for the combination, assuming arguendo that such combination is possible, must be derived by use of Applicant's own disclosure as a guide for selectively combining different features of the references to reconstruct Independent Claim 1 by hindsight. However, it is well established that a rejection based upon hindsight reconstruction of a claim is improper as a matter of law.

For the reasons discussed herein, in the previously filed Appeal Brief, and during the prosecution of this patent application, Applicant respectfully submits that Independent Claim 1 is allowable over the prior art applied in the Final Action, and requests that the rejection of this claim be reversed.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Mark P. Stone', written in a cursive style.

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